

# ADH7 (P-12): sc-161314

## BACKGROUND

ADH7 (alcohol dehydrogenase 7 (class IV),  $\mu$  or  $\alpha$  polypeptide), also known as ADH4, retinol dehydrogenase or gastric alcohol dehydrogenase, is a 386 amino acid protein belonging to the zinc-containing alcohol dehydrogenase family and the class-IV subfamily. Seven different human ADH isozymes exist: three belong to class-I:  $\alpha$ ,  $\beta$  and  $\gamma$ ; one to class-II:  $\pi$ ; one to class-III:  $\chi$ ; one to class-IV: ADH7; and one to class-V: ADH6. Encoded by a gene that maps to human chromosome 4q23, ADH7 localizes to the cytoplasm and is preferentially expressed in stomach, but, unlike other family members, is absent from liver. ADH7 is a homodimer that binds two zinc ions per subunit and contains nine exons. ADH7 participates in the synthesis of retinoic acid, a hormone important for cellular differentiation. Variations in ADH7 may be associated with alcohol dependence. ADH7 may also play a role in protection against aerodigestive tract cancer.

## REFERENCES

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2. Yokoyama, H., et al. 1995. Upstream structure of human ADH7 gene and the organ distribution of its expression. *Biochem. Biophys. Res. Commun.* 216: 216-222.
3. Zgombi-Knight, M., et al. 1995. Genomic structure and expression of the ADH7 gene encoding human class IV alcohol dehydrogenase, the form most efficient for retinol metabolism *in vitro*. *J. Biol. Chem.* 270: 4305-4311.
4. Yokoyama, H., et al. 1996. Molecular cloning and chromosomal localization of the ADH7 gene encoding human class IV ( $\alpha$ ) ADH. *Genomics* 31: 243-245.
5. Osier, M.V., et al. 2002. A global perspective on genetic variation at the ADH genes reveals unusual patterns of linkage disequilibrium and diversity. *Am. J. Hum. Genet.* 71: 84-99.
6. Osier, M.V., et al. 2004. Possible epistatic role of ADH7 in the protection against alcoholism. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 126B: 19-22.

## CHROMOSOMAL LOCATION

Genetic locus: ADH7 (human) mapping to 4q23; Adh7 (mouse) mapping to 3 G3.

## SOURCE

ADH7 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ADH7 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161314 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ADH7 (P-12) is recommended for detection of ADH7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other ADH family members.

ADH7 (P-12) is also recommended for detection of ADH7 in additional species, including porcine.

Suitable for use as control antibody for ADH7 siRNA (h): sc-89101, ADH7 siRNA (m): sc-140881, ADH7 shRNA Plasmid (h): sc-89101-SH, ADH7 shRNA Plasmid (m): sc-140881-SH, ADH7 shRNA (h) Lentiviral Particles: sc-89101-V and ADH7 shRNA (m) Lentiviral Particles: sc-140881-V.

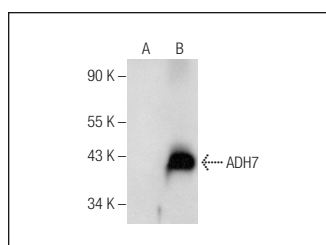
Molecular Weight of ADH7: 40 kDa.

Positive Controls: ADH7 (m): 293T Lysate: sc-118254.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



ADH7 (P-12): sc-161314. Western blot analysis of ADH7 expression in non-transfected: sc-117752 (A) and mouse ADH7 transfected: sc-118254 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.